

Amendment

(amendment according to Article 11 of the Law)

To Director-General of the Patent Office

5 1. Indication of International Application PCT/JP2004/005194
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4. Subject of Amendment

Description and Claims

20 5. Contents of Amendment

(1) Delete Description, page 5, line 21 to page 6, line 7.

(2) Delete Description, page , line 8 to line 11 "A component
mounting apparatus according to Claim 5 is characterized in that
25 board marks provided on end portion sides of the aforementioned
board are recognized, and the aforementioned component mounting
region is calculated based on the recognized board marks.", and
insert therefore "A component mounting apparatus according
to Claim 5 is a component mounting apparatus including: a nozzle
30 for holding a component at its lower end so as to mount the
component on a board, the component being supplied from a

component supply unit; a nozzle elevating means for moving the nozzle up/down; a nozzle moving means for moving the aforementioned nozzle horizontally; and a control means for controlling the aforementioned nozzle elevating means and the 5 aforementioned nozzle moving means so that the component moved by the aforementioned nozzle moving means is mounted on the aforementioned board, wherein: the aforementioned control means controls the aforementioned nozzle elevating means so that the aforementioned nozzle approaches a component mounting region 10 movement height close to the aforementioned board when the nozzle has arrived in a component mounting region above the aforementioned board; and the control means controls the aforementioned nozzle moving means so that the nozzle holding the aforementioned component at the aforementioned component 15 mounting region movement height is moved to a component mounting position on the aforementioned board so as to mount the aforementioned component from the aforementioned component mounting region movement height to the aforementioned component mounting position. The component mounting apparatus is 20 characterized in that board marks provided on end portion sides of the aforementioned board are recognized, and the aforementioned component mounting region is calculated based on the recognized board marks. Thus, it is possible to shorten an elevating stroke of the nozzle at the time of mounting the 25 component so that it is possible to improve the production efficiency."

Amend the description of page 6, line 14 to line 17 as follow
"The component mounting apparatus is characterized in that the aforementioned component mounting region is not calculated based
30 on the recognized board marks but the aforementioned component mounting region is calculated from information of the position

of the conveyance rail detected by the position detection means."

(3) Amend the description of page 7, line 19 to line 22 as follow "The component mounting method is characterized in that:
5 a component mounting region above the aforementioned board is calculated by recognizing board marks provided on end portion sides of the aforementioned board; the aforementioned nozzle is made to approach a component mounting region movement height close to the aforementioned board when the nozzle has arrived in a
10 component mounting region above the aforementioned board;".

(4) Delete Claim 4.

Change Claim 5 " A component mounting apparatus according to Claim 4, wherein board marks provided on end portion sides of
15 said board are recognized, and said component mounting region is calculated based on said recognized board marks." into "A component mounting apparatus including: a nozzle for holding a component at its lower end so as to mount said component on a board, said component being supplied from a component supply unit; a
20 nozzle elevating means for moving said nozzle up/down; a nozzle moving means for moving said nozzle horizontally; and a control means for controlling said nozzle elevating means and said nozzle moving means so that said component moved by said nozzle moving means is mounted on said board, wherein: said control means
25 controls said nozzle elevating means so that said nozzle approaches a component mounting region movement height close to said board when said nozzle has arrived in a component mounting region above said board; and the control means controls said nozzle moving means so that said nozzle holding said component
30 at said component mounting region movement height is moved to a component mounting position on said board so as to mount said

component from said component mounting region movement height to said component mounting position; and board marks provided on end portion sides of said board are recognized, and said component mounting region is calculated based on said recognized board
5 marks.

Change Claim 6 "wherein said component mounting region is calculated from information of said position of said conveyance rail detected by said position detection means." into "wherein said component mounting region is not calculated based on said
10 recognized board marks but said component mounting region is calculated from information of said position of said conveyance rail detected by said position detection means."

(5) Change Claim 7 "according to any one of Claims 4 through
15 6" into "according to any one of Claims 5 through 6".

Change Claim 8 "according to any one of Claims 4 through 7" into "according to any one of Claims 5 through 7".

Change Claim 10 "said nozzle is made to approach a component mounting region movement height close to said board when said
20 nozzle has arrived in a component mounting region above said board; said nozzle holding said component at said component mounting region movement height is moved to a component mounting position on said board;" into "a component mounting region above said board is calculated by recognizing board marks provided on end portion sides of said board; said nozzle is made to approach said component mounting region movement height close to said board when said nozzle has arrived in said component mounting region above said board; said nozzle holding said component at said component mounting region movement height is moved to a component
25 mounting position on said board;".
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6. List of Attached Sheets

- (1) Pages 4, 5, 5/1, 6, and 6/1 in Description
- (2) Pages 19, 20 and 20/1 in Claims.